

REMARKS

Claims 1, 2, 9 and 10 are presented without amendment and withdrawn claims 3-8 and 11-14 are retained in this application pending disposition of the petition for withdrawal of the requirement for restriction.

The office action states:

1. Applicant's election with traverse of Group I, claims 1, 2 and the species of claims 9 and 10 in the reply filed on 02/15/2007 is acknowledged. The traversal is on the ground(s) "[The Examiner has not shown that the claims in each group 'ARE PATENTABLE (novel and unobvious) OVER EACH OTHER'. Pp. 2.

The traversal was also on the grounds set forth in the Petition for Withdrawal of Requirement for Restriction that examination of all the claims could be made without serious burden, at least because all the claims were actually examined before the Notice of Appeal and Appeal Brief were filed, the requirement for restriction having been first made after the Notice of Appeal and Appeal Brief were filed.

The office action states:

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable over Cohen et al., for reasons cited in the previous action.
10. Claims 1, 2, 9 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, 35 U.S.C. 103(a) as being unpatentable Jederstrom et al., for reasons cited in the previous action. Pp. 4.  
...
11. Applicant's arguments filed 02/15/2007 have been fully considered but they are not persuasive.
- 12 In the arguments, applicant refers to "the authorities" on pages 5-6 of the appeal brief for their reply to the present rejections. However, none of the currently applied references were used to reject the claims under the special stature of 102/103 prior to appeal. The arguments in the Appeal brief are

against 102 rejections and do not address the presently applied 102/103 rejections of these references.

13. Regarding the argument against "103 rejections", applicant is remained that these reference are not relied on as simple 103 references. There is no need to modify the teachings of the reference as the references are believed to already teach the polymer beads that applicant is claiming. Applicant's arguments must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art.

14. As stated in the previous action, the absence of the broad relative language "swelling rapidly" in the reference does not change the structure of the polymer bead they teach. It is applicant's burden, in view of the identical structure between the prior art and the presently claimed polymer bead, to demonstrate that the prior art polymer beads are not rapidly swelling, to the extent that this property is defined in applicant's original filed disclosure. There is no need for modification of the prior art teachings.

15. With regard to 102/103 rejections, when the interpretation of the claim(s) is or may be in dispute, i.e. given one interpretation, a rejection under 35 U.S.C. 102 is appropriate and given another interpretation, a rejection under 35 U.S.C. 103(a) is appropriate, 102/103 rejections are proper. See MPEP § 2111 - § 2117 for guidelines on claim interpretation. Pp. 4-6.

For the rejection under Section 102 we rely on the authorities on pages 5-6 of the Appeal Brief. For the Section 103 rejection we rely at least on the authorities set forth on page 7 of the response filed 15 February 2007.

The grounds of rejecting claims 1 and 2 as anticipated by or, in the alternative, unpatentable over Cohen and of claims 1, 2, 9 and 10 as anticipated by or, in the alternative, as unpatentable over Jederström is respectfully traversed.

Neither reference discloses anything concerning a polymer bead of dry bead structure incorporating a diluent that is highly water soluble characterized by swelling rapidly when placed in contact with aqueous media to form a water-swollen gel bead. called for by all the claims, nor does either reference provide any suggestion for modifying what is disclosed in these references to form these claimed structures.

All the polymers added as discrete polymers to the system identified as being present in the aqueous phases disclosed in the two references are aqueous phase thickening agents, the

thickening action being attributed to their high molecular weight and ability to dissolve or disperse in water as individual molecular units. There is no disclosure that any of these polymers incorporate a diluent that is highly water soluble characterized by swelling rapidly when placed in contact with aqueous media to form a water-swelled gel bead. Aqueous phases thickened by the polymers return to a low viscosity aqueous phase when diluted by addition of water to the aqueous phase, and no beads can be physically isolated. Such polymers do not incorporate a diluent that is highly water soluble characterized by swelling rapidly when placed in contact with aqueous media to form a water-swelled gel bead as disclosed and claimed in this application. The water-swollen gel beads of this application can be physically isolated from aqueous media as water-swollen spherical beads regardless of how dilute or concentrated the system is. This property does not characterize any polymer disclosed in the two references.

Neither reference discloses a method of forming beads that swell rapidly in water. Both references disclose the use of polymers that serve as aqueous phase thickening agents to achieve the goals disclosed therein. In the Cohen patent this goal is to polymerize a hydrophobic monomer to a hydrophobic polymer with a desired uniform spherical size and shape accomplished in an aqueous phase thickened by the types of polymers disclosed in the reference. In the Jederström patent, the goal is to produce a particle-matrix system that is storage stable (e.g., as in an aerosol container).

Although the latter patent often states that the polymers cited are aqueous phase thickening agents, the reference states an ability "to irreversibly transform the dispersion into a stable gel-like particle matrix system (a hydro-gel)." Column 1, Lines 66-68. The term hydro-gel used here does not mean that it is a true gel that remains a gel if the system is diluted with water. Dilution with water of such systems yields a water dispersion of preformed beads initially dispersed in the hydro-gel. Nothing in this patent discloses the formation or properties of these beads. It is only said that they are hydrophilic. The reference states that the compositions "maintain a high degree of absorption and this was unexpected since the water compositions already contain a high proportion of water." Column 3, Lines 44-46. This statement simply reflects the thermodynamic fact that water free of solute placed in contact with water that contains a solute (the thickening agent disclosed in this patent) will migrate

into the solute plus water phase and dilute this phase, thereby lowering the free energy of the system.

The Cohen patent discloses, for example in the Summary of the Invention, polymerization of a monomer to a polymer, specifically, poly (vinyl chloride) by incorporating a surfactant and catalyst, and this "monomer mixture is then suspended as discrete droplets of a desired size in an aqueous medium thickened with a water-insoluble highly gelled polymeric suspending or dispersing agent which imparts plastic flow properties to such medium." Column 1, lines 54-66.

In the detailed description the Cohen patent states "... the water-insoluble suspending or dispersing agents employed are completely gelled out when added to an aqueous medium. They swell very greatly until the aqueous phase becomes a continuous non-grainy gel phase ..." Column 2, lines 6-10.

Claim 1 of this patent simply states that the polymer added to the aqueous phase converts the aqueous phase to an aqueous mucilage having plastic flow properties, said mucilage comprising a water-insoluble, water-swellaable lightly cross-linked polymer.

Significantly, it is stated in EXAMPLE III that an aqueous Carbopol 941 solution is added to the reactor. That reference is the only disclosure of the commercial name (Carbopol) of the unique class of polymer aqueous phase thickening agent(s) that play a key role in the disclosure in this patent. These polymers indeed thicken or increase the viscosity of an aqueous phase as the patent discloses, but they are not gel forming agents. That is not a disclosure of a dry bead structure with a diluent that is highly water soluble characterized by rapid swelling when placed in contact with aqueous media to form a water-swollen gel bead.

Accordingly, withdrawal of the rejection of claims as anticipated or unpatentable over either reference is respectfully requested. If this ground of rejection is repeated, the Examiner is respectfully requested to quote verbatim the language in each reference regarded as corresponding to each limitation in each rejected claim, and quote verbatim the language in the reference or other evidence that suggests modifying what is disclosed in either reference to meet the limitations of the rejected claims.

In view of the authorities of record, the foregoing remarks, those previously advanced and the inability of the prior art to anticipate or make obvious the subject matter as a whole of

the invention disclosed and claimed in this application, all the claims are submitted to be a condition for allowance, and notice thereof is respectfully submitted. Should the Examiner believe the application is not in a condition for allowance, he is respectfully requested to telephone the undersigned attorney at 617-521-7014 to discuss what additional steps he believes are necessary to place the application in a condition for allowance.

Please apply any charges or credits to deposit account 06-1050, order number 04015-005001.

Respectfully submitted,  
FISH & RICHARDSON, P.C.

30 July 2007  
Date: \_\_\_\_\_

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